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Address: P. O. Box: 19395-3486
Tehran, Islamic Republic of Iran
WebSite: http://jferm.khatam.ac.ir
E-mail: jferm@khatam.ac.ir

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Intraday Value at Risk Estimation with EVT-COPULA Approach

Ahmad Pouyanfar[1], Seyyed Hamid Mousavi[2]

Abstract: Value at Risk is the most general risk measure in banks and financial institutions that lies in the tail of the P&L distribution. To measure VaR of a portfolio of assets, correlation of the assets must be considered. Thus, to properly measure VaR one needs an approach to calculate joint distribution of returns series and also because VaR lies in the tail of P&L distribution, a framework to model tail of the distribution is necessary. Thus, in this research with combining EVT; to model tail of the P&L distribution, and Copula, to model joint distribution and VaR of three most liquid stock in petrochemical industry of Tehran Stock Exchange is calculated and then compared with other approaches. To model extreme events, we use POT approach and we use elliptical copulas to find joint distribution of series and calculating VaR. Results shows the proposed model performs very well compared to other models in calculating VaR of the investigated time period.

Keywords: ***Value at risk, Intraday data, Copula, EVT.***

JEL: G23, G32

1. Associate Prof., Finance Department, Khatam University, Tehran, Iran

2. MSc. Financial Engineering, Khatam University, Tehran, Iran

Submitted: 18 / September / 2016 **Accepted: 01 / November / 2016**
Corresponding Author: Seyyed Hamid Mousavi **Email: h.mousavi@khatam.ac.ir**
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Valuation Ratios and Stock Return Predictability; Evidence from TSE

Seyed Mahdi Barakchian[1], Leila Nasiri[2], Ali Ebrahimnejad[3]

Abstract: We study stock return predictability in the Tehran Stock Exchange over various horizons using four valuation ratios, and make in-sample and out-of-sample comparison with the historical mean model. Consistent with the literature, we find that valuation ratios do not predict returns over short horizons, but their predictive power increases with forecast horizon. For long, multi-year horizons we use bootstrapping to ensure valid statistical inference, given the persistence of the predictors and overlapping observations. With the exception of dividend payout ratio, valuation ratios have strong predictive power for 3 to 6 year horizons. The predictive power exhibits significant variation over time.

Keywords: ***Bootstrap, Campbell-Shiller Decomposition, Stock Return Predictability, Valuation Ratios.***

JEL: G12, G14, G15

1. Assistant Prof. of Economics, Graduate School of Management & Economics, Sharif University of Technology, Tehran, Iran

2. MSc. in Socio-Economic Systems Engineering, Graduate School of Management & Economics, Sharif University of Technology, Tehran, Iran

3. Associate, Cornerstone Research, Boston, USA

Submitted: 28 / July / 2016. **Accepted: 06 / November / 2016**
Corresponding Author: Leila Nasiri **Email: l.nasiri@imps.ac.ir**
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A Kernel Regression Method for Technical Pattern Recognition

Mohammad Mahdi Mousavi[1], Hamidreza Pourebrahim[2]

Abstract: During 1960-1970, several studies were done base on efficient market hypothesis but the researchers sought to challenge this hypothesis. One of the tools that use to reject this hypothesis is Technical analysis. Technical analysis is intuitive and visual approach based on past information. One of the tools of Technical analysis is patterns that are geometric shapes. In this paper, we propose a systematic and automatic approach to technical pattern recognition using nonparametric kernel regression and we apply this method to bank mellat, iran khodro and oil industry investment stocks from March 2011 to May 2016. Finally we assess the ability to predict correct trends by using patterns. We find that patterns do provide incremental information and can overbear the weak form of efficient market. The patterns that we investigate on, are head & shoulder top and bottom, ascending & descending flag, bullish & bearish pennant, rectangle tops & bottoms, double tops & bottoms, triple top & bottoms patterns.

Keywords: ***Technical Analysis, Kernel Regression, Efficient Market.***

JEL: G14, G17

1. Assistant Prof., Faculty of Management, Khatam University, Tehran, Iran

2. MSc. Student in financial engineering, Faculty of Management, University of Khatam, Tehran, Iran

Submitted: 25 / July / 2016 **Accepted: 31 / October / 2016**

Corresponding Author: Hamidreza Pourebrahim **Email: h.porebrahim@khatam.ac.ir**

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Predicting the Stock Price Crash Using Bacterial Foraging Algorithms and Bayes Algorithms

Roya Darabi[1], Seyed Javad Habibzadeh Baygi[2]

Abstract: Subject to sudden changes in stock prices in recent years has attracted the attention of many researchers. Stock price crash has negative effect on stock prices is very large and uncommon and usually occurs without inducing a major economic disaster. The aim of this study was to examine the predictability of stock price crash based on models based on machine learning. In this study, predicted the stock price crash based on bacterial foraging algorithms and Bayes algorithms is used. For this purpose 148 companies of Tehran Stock Exchange during the period from 2010 to 2015 were studied. The results show that these two algorithms with high accuracy on the ability to predict stock price crash. In addition to these research findings have shown that bacterial foraging algorithms with an accuracy of 94% more capacity than the Bayes algorithm (with an accuracy rate of 93%) in predicting of stock price crash.

Keywords: ***Bayes Algorithms, Bacterial Foraging Algorithms, Stock Price Crash.***

JEL: ***G11, G14***

1. Associate Prof. Accounting Department, Islamic Azad University, South Tehran Branch, Tehran, Iran

2. PhD Candidate.in Accounting, Islamic Azad University, South Tehran Branch, Tehran, Iran

Submitted: 08 / August / 2016 ***Accepted: 13 / December / 2016***
Corresponding Author: Roya Darabi ***Email: r_darabi@azad.ac.ir***
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Limited Investor Attention and Anchoring Bias: A Prediction of Market Collective Behavior

Arash Ghorbani [1], Mahdi Salehi [2], Mohammad Reza Abbaszadeh [3]

Abstract: This study employs the implication of psychological anchors and limited investor attention, as two behavioral biases used in the explanation of overreactions and under reactions, to investigate the ability of nearness to the Tehran Price Index (TEPIX) 52-week high and nearness to the TEPIX historical high to predict future aggregate market returns. Consistent with the literature, the results of our tests, using time series of daily and monthly returns of the market, suggest that individual traders as a whole under react to news as current index closes to the 52-week high and hence it is possible to forecast market returns over 1-month horizon. We also provide evidence that the nearness to the TEPIX historical high negatively predicts future market returns, showing an overreaction to news due to nearness to the historical high.

Keywords: ***Overreaction, Psychological Anchors, Limited Investor Attention, Under Reaction.***

JEL: G12, G14

1. Department of Accounting, Bojnourd Branch, Isalmic Azad University, Bojnourd, Iran

2. Associate Prof. Accounting, Ferdowsi University of Mashhad, Mashhad, Iran

3. Associate Prof. Accounting, Ferdowsi University of Mashhad, Mashhad, Iran

Submitted: 14 / September / 2016 **Accepted: 04 / December / 2016**
Corresponding Author: Arash Ghorbani **Email: arash@bojnourdiau.ac.ir**
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Effect of Weekdays on Return of Dollar Transactions in Iran

Seyed Hossein Hosseini[1], Ehsan Jafari Bagherabadi[2]

Abstract: One of the financial market anomalies is called thecalendar effect or the effect of time periods. Calendar effect includes several topics. This study tried to investigate the effects of days of the week on the fluctuations of exchange rate of Dollar, in compare to Rial, in Iranian informal exchange market from 2010 to 2016 with three models. The most important results obtained from the proposed models were as follows: 1) The first model indicated that on Saturday there is less returns than Monday, which is the mid-week day. 2) In the second model, Tuesday has the least returns in comparison to Monday.3) In the last model, Thursday and Saturday has the most and least returns respectively. Saturday had also the least effect on conditional volatility. Moreover, the effect of risk premium in the last model was positive and significant which was an indicator of the logical consequences of this model.

Keywords: *Effect of Weekdays, Exchange Market, Behavioral Finance.*

JEL: C32, F31, G14

1. Ph.D Candidate in finance, Faculty of Accounting and Management, Allameh Tabataba'i University, Tehran, Iran

2. Ph.D. Candidate in finance, Faculty of Management University of Tehran, Iran

Submitted: 01 / October / 2016 **Accepted: 21 / December / 2016**
Corresponding Author: Seyed Hossein Hossei*ni* **Email: *: h.hosseini931@atu.ac.ir***
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A New Model for Risk Management in Investment Projects Selection by Fuzzy FMEA and ANP

Mojtaba Salehi[1], Zahra Hoseinpour[2]

Abstract: Since the risk is an important subject in the selection of oil projects, many researchers focus on the optimization of project selection and enhancement of the security of energy supplies development. Previous studies have been widely developed using optimization techniques to somewhat reduce the risk of energy resources. This study selected National Iranian Oil Company as a case study and classified the risks of the development and production projects and then the weight of each risk was determined using the failure analysis techniques and fuzzy numbers. Then, the relative impact of each risk on return of projects was obtained by fuzzy analytical hierarchy process. Then using the weight of each risk, its relative impact on return and the proposed model based Markowitz model, the overall effect of risks on the portfolio final return was determined. The results show in optimistic situation investment in developing projects will be profitable but in pessimistic situation, it suggests investment in production projects for risky investor and investment in development projects for risk-averse investor.

Keywords: ***Failure Mode Effects Analysis, Oil projects, Fuzzy Network Analysis, National Iranian Oil Company, Risk management.***

JEL: G11, G21, G32

1. Assistant Prof. Industrial Engineering, Payame Noor University,Tehran, Iran

2. MSc., Industrial Engineering, Payame Noor University, Tehran, Iran

Submitted: 10 / July / 2016 ***Accepted: 06 / November / 2016***
Corresponding Author: Mojtaba Salehi ***Email: mojtaba.salehi@pnu.ac.ir***
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